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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/641,432	08/16/2000	Richard J. Blount	-47586-P037US-09907157	4601

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DALLAS OFFICE OF FULBRIGHT & JAWORSKI L.L.P.
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EXAMINER

NGUYEN, DUC M

ART UNIT PAPER NUMBER

2685

DATE MAILED: 07/09/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/641,432

Applicant(s)

BLOUNT ET AL.

Examiner

Duc M. Nguyen

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-55 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1-25 and 29-55 is/are allowed.
- 6) ☒ Claim(s) 26-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

This action is in response to applicant's response filed on 4/30/04. Claims 1-55 are now pending in the present application.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims **26-28** are rejected under 35 U.S.C. 103(a) as being unpatentable by **Anderson** (US Pat No. **3,842,247**) in view of **Eiskamp** (US **4,750,133**).

Regarding claim **26**, **Anderson** discloses a method for measuring delay of a transmission path, wherein the delays are measured at numerous frequency points over the frequency band of the transmission facility (see Fig. 1, and col. 3, lines 14-37).

Anderson further discloses the step of averaging the values of delay as a new estimate of the delay (see col. 12, lines 50-58). However, although **Anderson** discloses that the delay is the slope, or rate of change, of phase versus the frequency (see **col. 1, lines 20-29**),

Anderson fails to disclose the linearizing method for obtaining the delay from the slope of phase versus frequency characteristic graph as illustrated in Fig. 1 of **Anderson**.

However, it is noted that linearizing a straight line from the graph of measurement data as

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shown in Fig. 1 for determining a slope is well known in the art as disclosed by **Eiskamp** (see **Fig. 6, col. 10, lines 40-63 and col. 16, lines 24-28**), for ensuring (i.e, by visual inspection) that the computed data and collected data points does not include bad data points (see **col. 10, line 64 – col. 11, line 13 and col. 12, lines 26-29**). Here, since the computed average value of delay as described by **Anderson** is a least square method, and since **Anderson** does mention the linearity of the phase versus frequency in an ideal communication system (see “constant” feature in **col. 1, lines 20-25**), and since the delay value is computed from measurement data points which could be subjected to measurement errors, it would have been obvious to one skilled in the art at the time the invention was made to incorporate the above teaching of **Eiskamp** to **Anderson** for graphing the measurement data points and using the linearizing technique to obtain the delay value from the slope of the line as claimed, for improving the accuracy of the delay estimation while ensuring that the measured data points are sufficiently accurate within range of expectation (see **Eiskamp, col. 10, line 64 – col. 11, line 13**).

Regarding claim **27**, the claim is rejected for the same reason as set forth in claim **26** above. In addition, **Anderson** as modified would disclose the least square method is used for linearizing a curve (see **Eiskamp, Fig. 6, col. 16, lines 24-28**).

Regarding claim **28**, the claim is rejected for the same reason as set forth in claim **26** above. In addition, **Anderson** discloses a test signal with frequency increment as claimed (see **col. 3, lines 29-37**), for generating a plurality of measurements representing phase change versus frequency change curve as shown in Fig. 1.

Allowable Subject Matter

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3. Claims 1-25, and 29-55 are allowed.

4. The following is a statement of reasons for the indication of allowable subject matter:

As to claims 1, 13, 29, 46, the cited prior art of record fail to disclose or make it obvious a method or apparatus for delay equalization of multiple transmission paths which comprises steps as specified in the claims, wherein the linear relationship between phase and frequency over a selected frequency range is utilized for modifying the delays of signal paths.

Response to Arguments

5. Applicant's arguments with respect to claims 26-28 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

6. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

- **Yan** (US 5,060,728), Process for preventing scale formation in oil wells.
- **Mims et al** (US 4,160,958), Sampling linearizer utilizing a phase shifter.
- **Google**, "Analysis of experimental data using the method of least squares",

Unknown document from www4.ncsu.edu website.

7. **Any response to this action should be mailed to:**

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

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(703) 872-9314 (for formal communications intended for entry)

(for informal or draft communications, please label "PROPOSED" or "DRAFT")

Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington VA, Sixth Floor (Receptionist).

Any inquiry concerning this communication or communications from the examiner should be directed to Duc M. Nguyen whose telephone number is (703) 306-4531, Monday-Thursday (9:00 AM - 5:00 PM). Or to Edward Urban (Supervisor) whose telephone number is (703) 305-4385.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-4700.

Duc M. Nguyen

June 29, 2004

